

WHAT IS CLAIMED IS:

1. A pump for dispensing a fluid comprising a pneumatic reciprocating motor, a dispenser, and a reciprocal plunger driven by said motor;

wherein said motor comprises:

a motor cylinder having a head end and a rod end;

5 a motor piston reciprocable in the cylinder, said motor piston having a forward and a back side, said motor piston being reciprocable through a forward stroke toward the rod end of the cylinder and a return stroke back toward the head end and being biased to return back through a return stroke;

10 said plunger extending forward from the motor piston through the rod end of the cylinder and being reciprocable by the motor piston;

said cylinder having an air inlet for admission of compressed air thereto on the back side of the motor piston for driving it forward through a forward stroke against the return bias and an air outlet on the forward side of the motor piston for venting air;

15 said motor piston having through passaging extending from its forward side to its back side;

a valve movable in the motor piston relative to the motor piston between a position blocking said through passaging and a position unblocking said through passaging;

20 said cylinder and motor piston having auxiliary passaging for
delivery of air under pressure from the back side of the motor piston to move the
valve to its said through-passaging-unblocking position at the conclusion of a
forward stroke of the motor piston, the motor piston acting as a valve and opening
said auxiliary passaging at the conclusion of the forward stroke of the motor
25 piston;

 and wherein said dispenser comprises:

 a dispensing chamber;

 a dispensing piston in the dispensing chamber and supported by the
plunger for reciprocal movement in response to reciprocal movement of the
30 plunger, the dispensing piston being further moveable relative to the plunger
between a charge position for charging the dispensing chamber with fluid and a
discharge position for discharging fluid from the dispensing chamber.

 2. A pump as set forth in claim 1 wherein the dispensing piston has
at least one flow-through hole passing through the dispensing piston, and further
comprising a seal secured to the plunger in the dispensing chamber and
positioned relative to the dispensing piston so that at its charge position, the
5 dispensing piston is spaced from the seal such that fluid may flow through said
hole, and at its discharge position the dispensing piston engages the seal
preventing flow of fluid through said hole.

3. A pump as set forth in claim 2 further comprising an internal wall separating the dispensing chamber from the cylinder, a bore passing through the internal wall and the plunger extending from the piston through the bore into the dispensing chamber.

4. A pump as set forth in claim 2 wherein the plunger has a tip and further comprising a nut receivable on the tip, the nut having a smooth exterior surface and a head.

5. A pump as set forth in claim 4 wherein the tip has external threads and the nut has complementary internal threads.

6. A pump as set forth in claim 5 wherein the tip has a substantially solid construction free from an internal cavity.

7. A pump as set forth in claim 5 wherein the dispensing piston further comprises a central hole for receiving the nut with a slip fit such that the dispensing piston is mounted for sliding movement along the smooth exterior surface of the nut.

8. A pump as set forth in claim 6 wherein the dispensing piston is captured for movement along the plunger between the head of the nut and the seal.

9. An automatic pressure operated fluid dispenser comprising:
a dispensing chamber;
a reciprocally movable drive plunger, the plunger having a tip;
a dispensing piston in the dispensing chamber supported by the

5 plunger for reciprocal movement in response to reciprocal movement of the plunger, the dispensing piston having at least one flow-through hole passing through the dispensing piston, the dispensing piston being further moveable relative to the plunger between a charge position for charging the dispensing chamber with fluid and a discharge position for discharging fluid from the
10 dispensing chamber;

a seal in the dispensing chamber secured to the plunger for reciprocal movement along with reciprocal movement of the plunger, the seal positioned such that when the dispensing piston is at its charge position, the seal is spaced from the dispensing piston and fluid may flow through said flow-through
15 hole, and when the dispensing piston is at its discharge position, it engages the seal preventing flow of fluid through said flow-through hole; and

a nut receivable on the tip having a smooth exterior surface for supporting the dispensing piston and a head;

20 wherein the tip of the plunger has external threads and the nut has
complementary internal threads for securement on the tip.

10. A fluid dispenser as set forth in claim 9 wherein the tip has a
substantially solid construction free from an internal cavity.

11. A fluid dispenser as set forth in claim 9 wherein the dispensing
piston further comprises a central hole for receiving the nut with a slip fit such that
the dispensing piston is mounted for sliding movement along the smooth exterior
surface of the nut.

12. A fluid dispenser as set forth in claim 11 wherein the dispensing
piston is captured for movement along the plunger between the head of the nut
and the seal.